

Plug-in Signal Conditioners M-UNIT

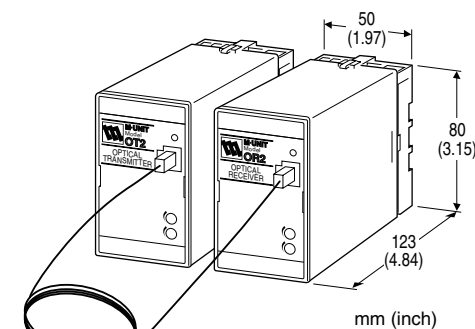
OPTICAL RECEIVER

Functions & Features

- Isolation up to several hundred thousand volts with a fiber optics cable
- High-density mounting

Typical Applications

- Ion implanter
- Electron-beam devices
- Dust chamber
- Protection against inductive noises in power substations



MODEL: OR2-[1]-[2][3]

ORDERING INFORMATION

- Code number: OR2-[1]-[2][3]
- Specify a code from below for each of [1] through [3].
(e.g. OR2-A-B/Q)
- Special output range (For codes Z & 0)
- Specify the specification for option code /Q
(e.g. /C01/S01)

[1] OUTPUT

Current

- A: 4 - 20 mA DC (Load resistance 750 Ω max.)
- B: 2 - 10 mA DC (Load resistance 1500 Ω max.)
- C: 1 - 5 mA DC (Load resistance 3000 Ω max.)
- D: 0 - 20 mA DC (Load resistance 750 Ω max.)
- E: 0 - 16 mA DC (Load resistance 900 Ω max.)
- F: 0 - 10 mA DC (Load resistance 1500 Ω max.)
- G: 0 - 1 mA DC (Load resistance 15 k Ω max.)
- Z: Specify current (See OUTPUT SPECIFICATIONS)

Voltage

- 1: 0 - 10 mV DC (Load resistance 10 k Ω min.)
- 2: 0 - 100 mV DC (Load resistance 100 k Ω min.)
- 3: 0 - 1 V DC (Load resistance 100 Ω min.)

- 4: 0 - 10 V DC (Load resistance 1000 Ω min.)
- 5: 0 - 5 V DC (Load resistance 500 Ω min.)
- 6: 1 - 5 V DC (Load resistance 500 Ω min.)
- 4W: -10 - +10 V DC (Load resistance 2000 Ω min.)
- 0: Specify voltage (See OUTPUT SPECIFICATIONS)

[2] POWER INPUT

AC Power

- B: 100 V AC
- C: 110 V AC
- D: 115 V AC
- F: 120 V AC
- G: 200 V AC
- H: 220 V AC
- J: 240 V AC

DC Power

- S: 12 V DC
- R: 24 V DC

[3] OPTIONS

- blank: none
- /Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q (multiple selections)

COATING (For the detail, refer to M-System's web site.)

- /C01: Silicone coating
- /C02: Polyurethane coating
- /C03: Rubber coating

TERMINAL SCREW MATERIAL

- /S01: Stainless steel

RELATED PRODUCTS

- Optical transmitter (model: OT2)
- Fiber optics cable:
 - 10 meters (model: AMPCP2-10M)
 - 20 meters (model: AMPCP2-20M)
 - 30 meters (model: AMPCP2-30M)
- Optical cable used for the AMPCP2
 - Mitsubishi Chemical Super Eska SH 4001
 - Minimum bend radius: 25 mm
 - Tension strength: \leq 70 N
- Connector used for the AMPCP2
 - Broadcom HFBR-4532Z

GENERAL SPECIFICATIONS

Construction: Plug-in
Transmission method: Light pulse (100 - 500 Hz)
Maximum transmission distance: 30 meters (98 ft)
Connection
Output & power input: M3.5 screw terminals
Optical fiber: Connector
Screw terminal: Chromated steel (standard) or stainless steel
Housing material: Flame-resistant resin (black)
Isolation: Output to power
Overrange output: Approx. -10 to +120 % at 1 - 5 V
Zero adjustment: -5 to +5 % (front)
Span adjustment: 95 to 105 % (front)
Power indicator LED: Green LED turns on when the power is supplied.

OUTPUT SPECIFICATIONS

■ **DC Current:** 0 - 20 mA DC
Minimum span: 1 mA
Offset: Max. 1.5 times span
Load resistance: Output drive 15 V max.
■ **DC Voltage:** -10 - +12 V DC
Minimum span: 5 mV
Offset: Max. 1.5 times span
Load resistance: Output drive 10 mA max.; 5 mA for negative voltage output; at ≥ 0.5 V

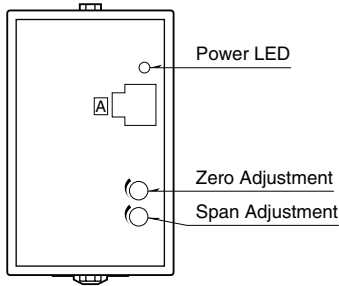
INSTALLATION

Power input
• **AC:** Operational voltage range: rating ± 10 %, 50/60 ± 2 Hz, approx. 3 VA
• **DC:** Operational voltage range: rating ± 10 %, ripple 10 %p-p max., approx. 2 W (80 mA at 24 V)
Operating temperature: -5 to +60°C (23 to 140°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Mounting: Surface or DIN rail
Weight: 400 g (0.88 lb)

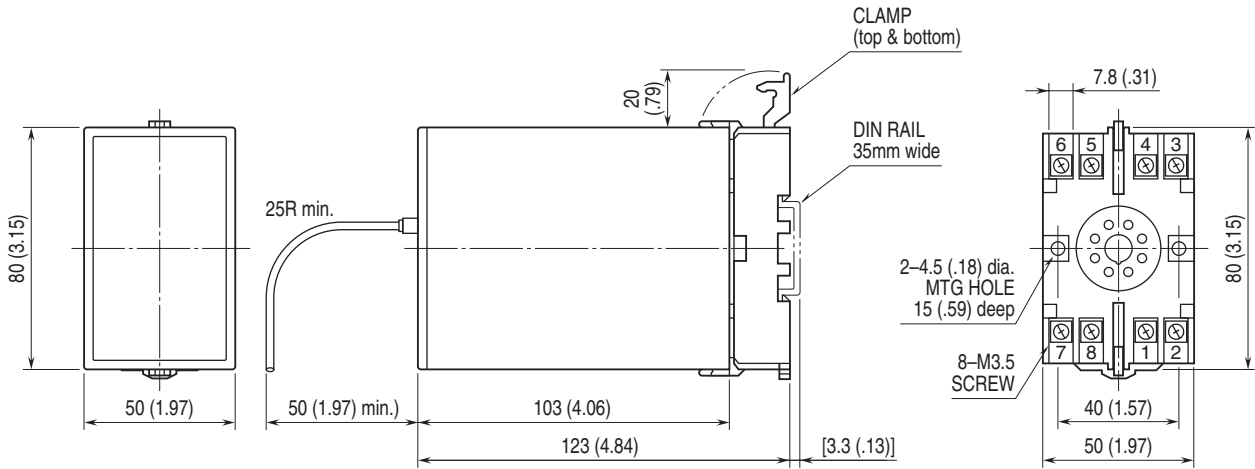
PERFORMANCE in percentage of span

Accuracy: ± 0.3 % (Overall performance with the OT2 and OR2 combined)
Temp. coefficient: ± 0.015 %/°C (± 0.008 %/°F)
Response time: ≤ 0.6 second (0 - 90 %) (Overall performance with the OT2 and OR2 combined)
Line voltage effect: ± 0.1 % over voltage range
Insulation resistance: ≥ 100 M Ω with 500 V DC
Dielectric strength: 2000 V AC @ 1 minute (output to power to ground)

EXTERNAL VIEW

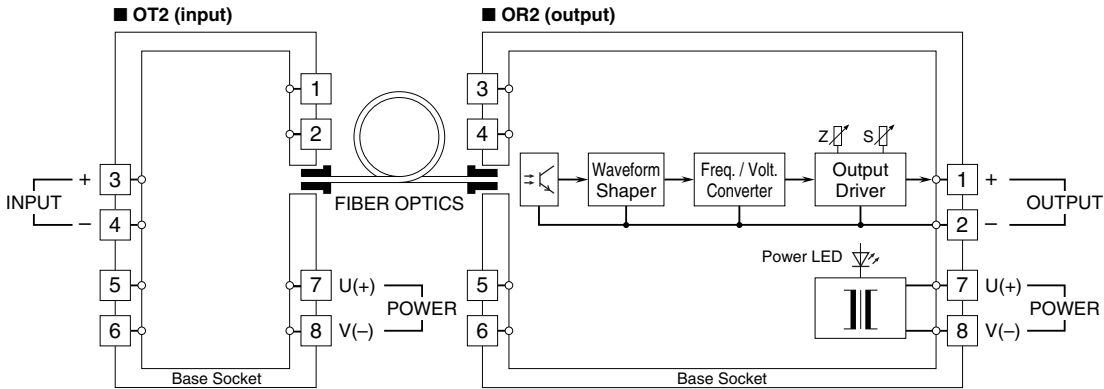


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



• When mounting, no extra space is needed between units.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.